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PTO/SB/64 (05-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED
UNINTENTIONALLY UNDER 37 CFR 1.137(b)**

Docket Number (Optional)
201-0473

First named inventor: M. Nabeel Tarabishy

Application No.: 10/051,063

Art Unit: 3661

Filed: 1/17/02

Examiner: M.Y. Marc Coleman

Title: A METHOD FOR COLLISION AVOIDANCE
AND COLLISION MITIGATION

RECEIVED

JUN 02 2003

OFFICE OF PETITIONS

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
FAX: (703) 308-6916

EL 764730655US

NOTE: If information or assistance is needed in completing this form, please contact Petitions
Information at (703) 305-9282.

The above-identified application became abandoned for failure to file a timely and proper reply to a
notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the
expiration date of the period set for reply in the Office notice or action plus an extensions of time
actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Reply and/or issue fee;
- (3) Terminal disclaimer with disclaimer fee --required for all utility and plant applications
filed before June 8, 1995; and for all design applications; and
- (4) Statement that the entire delay was unintentional.

1. Petition fee

☐ Small entity-fee \$ _____ (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.

☒ Other than small entity - fee \$ 1,280 (37 CFR 1.17(m)) (If fee is applicable, please charge to
Deposit Account 06-1510, if insufficient funds Deposit Account 06-1505.)

2. Reply and/or fee

A. The reply and/or fee to the above-noted Office action in
the form of Extension of Time, Amendment

(identify type of reply):

☒ has been filed previously on 3/27/03 by Facsimile (copy of acknowledgement is attached.)
☐ is enclosed herewith.

B. The issue fee of \$ _____

☐ has been paid previously on _____
☐ is enclosed herewith.

03/02/2003 00000058 061510 10051063

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[Page 1 of 2]

This collection of information is required by 37 CFR 1.137. The information is required to obtain or retain a benefit by the public which is to file (and by the
USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete,
including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments
on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent
and Trademark Office, U.S. Department of Commerce, P.O. 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS
ADDRESS. SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Terminal disclaimer with disclaimer fee

☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ _____ for a small entity or \$ _____ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

4. STATEMENT: The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D))].

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

5/29/03

Date


Signature

Telephone

Number: (313) 323-2024

Frank A. MacKenzie - 42,826

Typed or printed name

Ford Global Technologies, LLC
One Parklane Blvd.

Address

Suite 600, Parklane Towers East
Dearborn, MI 48126

Address

Enclosures: ☒ Fee Payment☒ Reply☐ Terminal Disclaimer Form☐ Additional sheets containing statements establishing unintentional delay☒ Other: Declaration of Sandra M. Lewis

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: **Mail Stop Petition**, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 308-6916.

5/29/03

Date


Signature

Sandra M. Lewis

Type or printed name of person signing certificate



Notice of Abandonment

Application No.

10/051,063

Examiner

Marthe Y Marc-Coleman

Applicant(s)

TARABISHY ET AL.

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on 27 September 2002.
 - (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
 - (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
 - (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
 - (d) ☒ No reply has been received.
2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
 - (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
 - (b) ☐ The submitted fee of \$_____ is insufficient. A balance of \$_____ is due.
The issue fee required by 37 CFR 1.18 is \$_____. The publication fee, if required by 37 CFR 1.18(d), is \$_____.
 - (c) ☐ The issue fee and publication fee, if applicable, has not been received.
3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
 - (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
 - (b) ☐ No corrected drawings have been received.
4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.
7. ☐ The reason(s) below:

Marthe Y. Marc-Coleman

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.



10/051063

Customer NO. 022844

PATENT



OFFICIAL
UNOFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Tarabishy, et al.

Serial No: 10/051,063 Group Art Unit: 3661

Filed: 1/17/2002 Examiner: M. Y. Marc Coleman

Title: A METHOD FOR COLLISION AVOIDANCE AND COLLISION MITIGATION

☒ **CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8(a))**

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5/29/03
Date

Saundra M. Lewis Saundra M. Lewis
Signature

Mail Stop Petition
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P.O. Box 1450
Alexandria, VA 22313-1450

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JUN 02 2003

Declaration Under 37 C.F.R. 1.137(b)

OFFICE OF PETITIONS

I, Saundra M. Lewis, declare as follows:

1. I am a Patent Administrative Assistant for Ford Global Technologies, LLC.
2. An Amendment was faxed by me on behalf of Frank A. MacKenzie to Examiner M. Y. Marc Coleman at (703) 305-7687 on March 27, 2003.
3. This petition is being filed promptly after the patentee received a Notice of Abandonment on May 22, 2003.

4. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and, further, that these statements and the like so made are punishable by fine and imprisonment, or both, under §1001 of title 18 of the of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issuing thereon.

Respectfully submitted,


Sandra M. Lewis

Date: 5/29/2003
Ford Global Technologies, LLC
600 Parklane Towers East
Dearborn, Michigan 48126
1-313-323-1826
Fax: (313) 322-7162

FGTI LO/TMGROUP

JOB #314

DATE TIME
001 3/27 4:08PTO/FROM MODE MIN/SEC PGS STATUS
917033057687 EC--S 01' 57" 008 OK*Ford Motor Company*

FORD GLOBAL TECHNOLOGIES, INC.

600 Parklane Towers East
Dearborn, Michigan 48126

FAX: 313-322-7162

Date: March 27, 2003

TO: Marthe Y Marc-Coleman, Primary Examiner
United States Patent & Trademark Office
Fax No.: (703) 305-7687

FROM: Frank A. MacKenzie
Telephone: (313) 323-2024

NUMBER OF SHEETS ATTACHED TO THIS TRANSMITTAL: 7

MESSAGE:

Attached is a Petition And Fee For Extension Of Time, and an Amendment in
Patent Application number 10/051.063.

This communication contains confidential information which is intended only for the use of the addressee. It may also contain information that is protected by the Attorney-Client Privilege or the Work Product Doctrine. Copying or distribution of this communication by persons other than the addressee is prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the above address by United States mail. Thank you.

10/051,063

Customer NO. 022844

PATENT

☒ OFFICIAL
☐ UNOFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Tarabishy, Engelman, Lind, Modigsson, Tellis, Bond

RECEIVED

Serial No: 10/051,063

Group Art Unit: 3661

JUN 02 2003

Filed: 01/17/2002

Examiner: Marthe Y. Marc Coleman

OFFICE OF PETITIONS

Title: A METHOD FOR COLLISION AVOIDANCE AND COLLISION
MITIGATION

☒ **CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8(a))**

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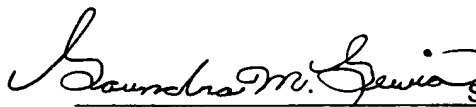
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☐ transmitted by facsimile to
the Patent and Trademark Office
Fax No:
Total No. of Pages:

3/27/03

Date



Sandra M. Lewis

Signature

☒ **PETITION AND FEE FOR EXTENSION OF TIME (37 CFR 1.136(a))**

1. This is a petition for an extension of time to respond to the Office Action mailed March 29, 2002 requesting a 3 month extension of time.
2. Applicant is other than a small entity.

3. Extension (Months)

- ☐ one month
☐ two months
☒ three months
☐ four months

Fee For Other Than Small Entity

\$110.00
 \$400.00
 \$920.00
 \$1440.00

4. Amendment is filed herewith.
5. Please charge fee to Deposit Account 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No. 06-1505.

#9

AMENDMENT AND REQUEST FOR RECONSIDERATION

Assistant Commissioner for Patents
Washington, D.C. 20231

Madam:

Applicants submit this Amendment and Request For Reconsideration in response to the Office Action, mailed September 27, 2002, and allowing three months for a response. This response is timely because an extension of the time for response (3 months) is being filed with this paper.

The Applicants will address all the points raised by the Examiner and demonstrate that the present invention is patentable.

IN THE CLAIMS

Please amend claims 1 and 10 as follows:

1. An apparatus for avoiding vehicle collisions comprising:
- a forward-looking sensor generating a forward-looking signal corresponding to a relative position between a host vehicle and a target object;
 - a yaw rate sensor generating a yaw rate signal corresponding to the angular position of said host vehicle relative to said target object; and
 - a controller electrically coupled to said forward-looking sensor and said yaw rate sensor, said controller receiving said forward-looking signal and said yaw rate signal, said controller including control logic operative to predict the probability density function for the position of a vehicle at several future occasions, predict the probability density function for the position of said additional object at several future occasions, form the joint probability density function for the relative positions of the vehicle and object at said several future occasions, and integrate the joint probability density function over the area in which the vehicle and the object are in physical conflict based upon said forward-looking signal and said yaw rate signal.

10. A method for avoiding vehicle collisions comprising the steps of:

generating a forward-looking signal corresponding to a relative position between a host vehicle and a target object;

generating a yaw rate signal corresponding to the angular position of said host vehicle relative to said target object;

predicting the probability density function for the position of a vehicle at several future occasions;

predicting the probability density function for the position of said additional object at several future occasions;

forming the joint probability density function for the relative positions of the vehicle and object at said several future occasions; and

integrating the joint probability density function over the area in which the vehicle and the object are in physical conflict based upon said forward-looking signal and said yaw rate signal.

REMARKS

This paper is submitted in response to the Office Action mailed September 27, 2002. Claims 1-18 are presently pending in this application. Claims 1-18 stand rejected under 35 U.S.C. §112, for indefiniteness in view of lack of antecedent basis. Claims 1, 2, 10, and 11 stand rejected under 35 U.S.C. §102(b) as being anticipated by Ishida et al. U.S. Patent No. 5,572,428. Claims 3-9 and 12-18 stand rejected under 35 U.S.C. §103 as being unpatentable over Ishida et al. U.S. Patent No. 5,572,428 in view of Wang et al. U.S. Patent No. 5,613,039.

Regarding the rejection of Claims 1-18 under 35 U.S.C. §112, for indefiniteness in view of lack of antecedent basis, Claims 1-18 have been amended above to overcome the indefiniteness rejection based upon lack of sufficient positive antecedent basis in accordance with paragraph 3 of the Office action. In claim 1 and 10, "the relative positions" has been replaced with "a relative position".

Regarding the rejection of Claims 1, 2, 10, and 11 under 35 U.S.C. §102(b) as being anticipated by Ishida et al. U.S. Patent No. 5,572,428, the applicant respectfully submits that these claims are novel because the present claims and the prior art

differ. Claims 1 and 10 are distinguished from the Ishida reference because these claims recite forming several probability density functions for future occasions and then integrating these functions over an area. Claims 1 and 10 are therefore novel. Claims 2 and 11 depend from Claims 1 and 10 and are therefore novel.

Regarding the rejection of Claims 3-9 and 12-18 for obviousness under 35 U.S.C. §103, the applicant respectfully submits that these claims are non-obvious for the following reasons. Ishida fails to disclose forming several probability density functions for future occasions and then integrating these functions over an area. Furthermore, Ishida does not address stationary objects or the prediction for multiple objects. Wang teaches the use of a probabilistic neural network for processing Fourier transform object parameter data. And only teaches tracking a plurality of "closely" located objects. Wang does not teach the use of several probability density functions for future occasions and then integrating these functions over an area. Wang also does not teach tracking multiple objects that are not "closely" located. Applicants therefore submit that the combination of Ishida and Wang would not render obvious applicants' claimed invention because Ishida and Wang either alone or in combination, do not disclose or suggest what is claimed by applicants.


Regarding the rejection of Claims 5 and 14 for obviousness under 35 U.S.C. §103, the Wang patent does not address the use of a forward-looking signal corresponding to width and length. Applicants therefore submit that the combination of Ishida and Wang would not render obvious applicants' claimed invention because Ishida and Wang either alone or in combination, do not disclose or suggest what is claimed by applicants.

Regarding the rejection of Claims 7, 8, 16 and 17 for obviousness under 35 U.S.C. §103, the Wang patent does not address the use of a kalman filter. Applicants therefore submit that the combination of Ishida and Wang would not render obvious applicants' claimed invention because Ishida and Wang either alone or in combination, do not disclose or suggest what is claimed by applicants.

In view of the foregoing amendments and remarks, the Applicant submits that claims 1-18 are now allowable. Expeditionary allowance of claims 1-18 is earnestly solicited. If the Examiner has any questions on the above, or wants to discuss the subject matter further, he is welcome to call the Applicants' attorney at (313) 323-2024.

Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No. 06-1505.

Respectfully submitted,


Franklin A. MacKenzie
Reg. No. 42,826

Date: March 27, 2002
Ford Global Technologies
Suite 600 East, One Parklane Blvd.
Dearborn, Michigan 48126
(313) 323-2024
(313) 323-7162 (fax)

MARKED UP CLAIMS I.A.W. 37 C.F.R. 1.21

Please amend claims 1 and 10 as follows:

1. (Amended) An apparatus for avoiding vehicle collisions comprising:
 - a forward-looking sensor generating a forward-looking signal corresponding to [the] a relative position[s] between a host vehicle and a target object;
 - a yaw rate sensor generating a yaw rate signal corresponding to the angular position of said host vehicle relative to said target object; and
 - a controller electrically coupled to said forward-looking sensor and said yaw rate sensor, said controller receiving said forward-looking signal and said yaw rate signal, said controller including control logic operative to predict the probability density function for the position of a vehicle at several future occasions, predict the probability density function for the position of said additional object at several future occasions, form the joint probability density function for the relative positions of the vehicle and object at said several future occasions, and integrate the joint probability density function over the area in which the vehicle and the object are in physical conflict based upon said forward-looking signal and said yaw rate signal.

10. (Amended) A method for avoiding vehicle collisions comprising the steps of:
 - generating a forward-looking signal corresponding to [the] a relative position[s] between a host vehicle and a target object;
 - generating a yaw rate signal corresponding to the angular position of said host vehicle relative to said target object;
 - predicting the probability density function for the position of a vehicle at several future occasions;

predicting the probability density function for the position of said additional object at several future occasions;

forming the joint probability density function for the relative positions of the vehicle and object at said several future occasions; and

integrating the joint probability density function over the area in which the vehicle and the object are in physical conflict based upon said forward-looking signal and said yaw rate signal.